

REMARKS

This is in response to the Office Action mailed on December 11, 2003. Pending in the present application were claims 21-40, all of which have been rejected as failing to comply with the written description requirement and as being anticipated by the prior art. With this Amendment, claims 21-34 are canceled; claims 35 and 37 are amended; and dependent claims 41 and 42 are added. Pending claims 35-42 are now in condition for allowance and reconsideration and notice to that effect is respectfully requested.

Claims 21-40 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. It is asserted in the Office Action that the present specification supports the claimed presence of the "mounds and valleys" structure only in the context of "two atomic components that form a plurality of atomic layers that are deposited on planar surfaces, wherein the deposition of two components is performed in opposite directions." Applicant respectfully disagrees with this characterization for the reasons set forth in previous communications. Nonetheless, in the interest of hastening allowance of the present application, Applicant has canceled claims 21-34 and amended independent claim 35 to include each of the above-identified limitations. Applicant reserves the right to later address this rejection. Thus, independent claim 35 and its dependent claims 36-40 are supported by the written description, and this rejection should be withdrawn. Additionally, new claims 41 and 42, which depend from claim 35, are a substantial representation of canceled claims 26 and 32, respectfully. Accordingly, claims 41 and 42 also comply with the written description requirement.

Claims 21-40 were also rejected under 35 U.S.C. § 102(b) as being anticipated by Chambliss et al., U.S. Patent No. 5,858,455. Independent claim 35 and its dependent claims 36-42 are each directed to a thin film structure having lateral composition modulations. The thin film structure includes a substantially planar substrate and a plurality of atomic layers deposited upon the substrate. Each layer is composed of ballistically-separated first and second atomic components. The first component is deposited from a first deposition direction at a first deposition angle. The second component is deposited from a second deposition direction substantially opposite the first

deposition direction at a second deposition angle. Each layer also has a top surface characterized by an uneven film topography having mounds and valleys which result in each of the simultaneously-deposited components tending to accumulate on sides of the mounds different than the sides upon which the remaining components accumulate.

Differently, Chambliss et al. teach spontaneously-formed, self-assembled structures having lateral composition modulations. As described in the present specification, spontaneously-formed, self-assembled structures are limited in application to specific materials having the proper crystal structure to spontaneously arrange themselves. (Page 2, lines 6-16). As also described in the specification, the present invention is directed toward the need for structures having lateral composition modulations with the need for "self-assembly". (Page 2, lines 17-18). Although Applicant believes claim 35 is patentable for all the reasons presented in previous communications, in the interest of hastening allowance of the present application, Applicant has amended claim 35 to further require that the first and second components be characterized by their inability to spontaneously self-assemble. This new limitation, which is supported by the specification as shown above, is not taught by Chambliss et al. Thus, claims 35-42 patentably distinguish from Chambliss et al., and this rejection should be withdrawn.

Finally, claim 37 was rejected under 35 U.S.C. § 102, second paragraph as being indefinite. Claim 37 has now been amended to correct several typographical errors that resulted in this rejection. Accordingly, this rejection should be withdrawn.

The present Amendment should be entered because it adopts the Examiner's suggestions for overcoming the rejection based upon the written description and places the present application in condition for allowance.

In view of the foregoing remarks, Applicant believes that claims 35-42 are in condition for allowance. Reconsideration and notice to that effect is respectfully requested. The Examiner is invited to contact the undersigned at the telephone number listed below if such a call would in any way facilitate allowance of the application.

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Application No.: 09/619,738

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The Commissioner is authorized to charge any additional fees associated with this paper or credit any overpayment to Deposit Account No. 11-0982. A duplicate copy of this communication is enclosed.

Respectfully submitted,

KINNEY & LANGE, P.A.

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